STATE OF MONTANA

REPORT ON REVIEW
OF THE
COMPUTER SERVICES FACILITY
AND SELECTED APPLICATIONS

For the Fiscal Year Ended June 30, 1982

82-19

Office of the Legislative Auditor
Room 135, State Capitol
Helena, Montana 59620

ROBERT R. RINGWOOD
LEGISLATIVE AUDITOR

JOHN W. NORTHEY
STAFF LEGAL COUNSEL

The Legislative Audit Committee
of the Montana State Legislature:

We have reviewed and tested to the extent we considered necessary the procedures and controls for the Information Processing Facility, the Statewide Budgeting and Accounting System (SBAS), the Warrant Writing System, and the Central Payroll System of the State of Montana during the fiscal year ended June 30, 1982.

Our review and tests were limited to the systems listed above and did not include consideration of procedures or controls performed by users of the facility and the systems.

The attached report includes a description of the systems tested, the scope of our review, and a description of the tests performed and the results of these tests. The internal control review of the Information Processing Facility was limited to tests of controls ensuring operating systems security, segregation of functions, physical security, data security, and disaster recovery. We did not examine controls for applications utilizing the Integrated Data Management System data base.
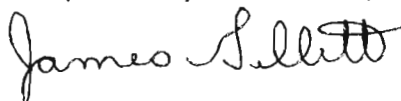
In our opinion, the internal controls in the Information Processing Facility and the system controls for the Statewide Budgeting and

i

Accounting System, the Warrant Writing System, and the Central Payroll System for the fiscal year ended June 30, 1982 conformed to the accompanying descriptions. However, we found inadequacies exist as noted in the following pages.

Because our review and tests were limited to the attached system descriptions and the related procedures performed by the Information Processing Facility and did not extend to procedures performed by users of the facility, we express no opinion on the adequacy of internal accounting controls as they apply to either a specific user of the Information Processing Facility or to the facility itself.

The attached report is intended for use by auditors as a basis for reliance on these centralized state operations in the performance of fiscal year 1981-82 audits of state agencies.

Respectfully submitted,

James H. Gillett, CPA
Deputy Legislative Auditor
Financial/Compliance & Contract Audits

August 27, 1982

Approved by:

Robert R. Ringwood
Legislative Auditor

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

REPORT ON CENTRAL SYSTEMS REVIEW

FOR THE FISCAL YEAR 1981-82

GENERAL

This report is the result of our review of certain centralized operations of the state of Montana for the fiscal year ended June 30, 1982. The first part of the report discusses the overall security and controls of the Computer Services Division. These controls affect all data processing users. The second, third, and fourth parts discuss the Central Payroll System, the Statewide Budgeting and Accounting System, and the Warrant Writing System, respectively. We performed application reviews of these systems to evaluate the integrity and effectiveness of the systems.

INFORMATION PROCESSING FACILITY INTERNAL CONTROL REVIEW

Background

The Department of Administration, Computer Services Division (CSD), manages and operates the Information Processing Facility (IPF) for the state of Montana. The IPF handles data processing applications for various state agencies. The scope of our review of the IPF included evaluation and testing of critical internal controls over operations, hardware, software, and security that ensure integrity and safeguards over processing agency data.

Data enters the system through various media. Most common are hard copy documents (converted to machine readable format), magnetic tape, and on-line transmissions (teleprocessing). Processing is performed on an IBM 3033 processor using the IBM MVS operating system. Three shifts of employees maintain operation of the system 24 hours a day, 7 days a week.

1

Output is available as hard copy reports, magnetic tape or disk data files, and on-line transmissions.

We examined centralized controls over data entry, processing, distribution of output, physical security, and disaster recovery. Our examination tested the integrity of processing and security over data at the facility.

Descriptions of IPF procedures can be found in the Computer Services Division Manual of Standards.

Data Entry

We reviewed data entry procedures at the CSD Data Entry Section. Controls were adequate to ensure data conversion was accurately performed by Data Entry Section employees. We did not review data entry procedures at other agencies.

Operating System Security

CSD utilizes IBM's MVS operating system. Security and integrity were major design objectives of the MVS operating system. It is the responsibility of the user installation to ensure designed controls are utilized.

Weaknesses were noted in access controls over certain programs that are assigned special properties. These weaknesses allow persons with technical knowledge to bypass certain controls designed into the operating system (password protection for example). Bypassing these controls could allow unauthorized access to applications or data files.

CSD has purchased a new system security package. They will begin testing the system in August or September 1982 and will

2

implement it as soon as possible thereafter. The new security system should enable CSD to greatly reduce the internal control weakness noted above.

Segregation of Duties

Segregation of duties at the facility was adequate during the audit period.

Output Distribution

We found hard copy distribution controls for applications run at CSD to be adequate. Controls were adequate to ensure magnetic tapes are released only to authorized persons. On-line output controls were not examined.

Physical Security

We determined physical security at the CSD processing facility was adequate.

Data Security

Various security options exist for the protection of user data files. Passwords are the primary protection method used for on-line data-sets. Due to weaknesses noted in the Operating System Security Section of this report on page 2, password protection is not adequate for sensitive data. We noted in our review that few data files were password protected and that protection is cumbersome for both Computer Services Division and the user.

The newly purchased security system will have the ability to protect data files through access restrictions not available on the present operating system.

3

Disaster Recovery

The Computer Services Division developed a disaster recovery contingency plan for the IPF and critical applications. The plan calls for an alternate site to be established in the event of a disaster. Critical applications included in the plan are the Central Payroll System, the All-Purpose Warrant System, SBAS, and the Workers' Compensation Division warrant processing system.

The disaster recovery plan does not call for a fully operational pre-disaster site. The intention is to have a alternate site which can become fully operational within 30 days of a disaster. CSD has agreements for the use of two alternate sites which can become fully operational within the above time frame.

All IPF users are responsible for the backup of their own data files. Computer Services Division maintains offsite vaults for the storage of backup files. Backup files are moved to these vaults at the request of users. We reviewed procedures for offsite backup of operating system software and found them adequate. We did not review the adequacy of agency offsite backup.

CENTRAL PAYROLL SYSTEM

Background

The State Auditor's Office, Central Payroll Division, is respon-sible for the operation, maintenance, and control of the Central Payroll System for state government. The Central Payroll System processes payroll information for all state agencies, except univer-sity system units and the vocational technical centers. The system processes biweekly payroll information for approximately 14,000 state employees. During fiscal year 1981-82, Central Payroll Division began operating a new payroll system which incorporates Payroll, Personnel, and Position Control information. The division employed eight full-time employees during fiscal year 1981-82.

One of the applications scheduled for the new payroll system is leave accounting. This application was not in use during our review period and we did not test it.

Proper processing of payroll transactions and updating of the SBAS records is ensured by the separation of time-keeping, payroll preparation, recording, and warrant distribution functions, and the following additional controls.

Input Controls

Data is entered into the payroll system using hard copy payroll forms processed through the Central Payroll Division. Division personnel preaudit each document to ensure that no obvious errors exist and code the document for keying. The preaudit ensures all prepayrolls and payroll status forms contain proper agency authorization. Input documents are then batched and taken to the Data Entry Section of the Computer Services Division.

5

Data Entry personnel key and key-verify the changes. Unchanged payroll data from the previous run is kept in a hold file and does not require rekeying. The Data Entry Section maintains control over payroll transactions by logging all payroll batches received from Central Payroll and transferred to the computer room. The hard copy documents are returned to Central Payroll for filing.

All payroll transactions are processed through an edit/update program that validates the data against master files and predetermined edits. All transactions which generate payroll warrants are balanced against control totals input to the system. Invalid transactions are rejected and placed in an error file, and an invalid change register is printed identifying the errors.

During prior audits we found that edit routines allowed processing of abnormally high hourly wage rates and gross pay amounts. The payroll system now identifies excessive wage rates and gross pay amounts.

Rejected transactions are controlled and corrected by the Central Payroll Division. Once the errors have been corrected, the transactions are again processed through the edit program. Procedures used to edit and correct input data minimize errors and ensure that corrections are submitted for processing.

We reviewed input controls to gain reasonable assurance that data received for processing has been properly authorized and that data has not been lost, suppressed, added, duplicated, or otherwise improperly changed. Controls are adequate over the input of prepayroll listings, changes in pay rates, and the addition and

termination of employees. <u>Centralized controls are not adequate to</u> <u>ensure other changes submitted on payroll status forms are properly</u> <u>input</u>.

Processing Controls

We examined the accuracy of the system's calculation of employer and employee payroll expenses, withholdings and deductions and found no errors in the system's calculations. We also tested central payroll transactions for compliance with state and federal laws regarding minimum wage requirements and found no exceptions.

System-generated entries of payroll expenditures were traced to appropriate SBAS documents and reports. The payroll information was accurately recorded on SBAS. All payroll expenditure entries were transferred into the payroll revolving account on SBAS. <u>We found the payroll revolving account was not reconciled</u> <u>during the audit year</u>.

Accruals of the last full pay period for fiscal year 1981-82 were centrally processed by the Central Payroll Division using the cash elimination procedures described in Management Memo 2-82-2. It was each agency's responsibility to submit partial pay period accruals for the period June 25 through June 30, 1982. The partial pay period accrual was based on actual hours worked by employees.

We traced payee and amount from Central Payroll reports to the cashed warrants kept at the Fiscal Management and Control Division of the State Auditor's Office. No discrepancies between the warrant information and the system's reported information were noted.

Central Payroll prepares and distributes W-2 forms annually. We determined they were prepared and distributed on a timely basis.

Output Controls

The payroll system produces two types of output: payroll reports and payroll warrants. Payroll reports are used to balance, reconcile, and manage the system. Balancing procedures exist to ensure that input data balances to reported output. We compared the payroll figures reported by the Central Payroll System with those reported by the Warrant Writing System and SBAS. The Warrant Writing System and SBAS adequately report payroll data processed by the Central Payroll System.

Computer Services Division distributes payroll reports to Central Payroll. Warrants and the original warrant register go to the Fiscal Management and Control Division of the State Auditor's Office. The State Auditor's Office then distributes payroll warrants as described on page 18 of this report. Central Payroll Division distributes payroll reports and a copy of the warrant register to each agency.

Existing output controls ensure that processed data does not include unauthorized alterations and that the appropriate reports are available for the user agencies.

Disaster Recovery

The Central Payroll System is included in the Computer Services Division disaster recovery plan discussed on page 4 of this report. The Central Payroll Division maintains adequate offsite backup files.

SBAS

Background

The Department of Administration, Accounting Division, operates the Statewide Budgeting and Accounting System (SBAS). SBAS is a double entry system that provides financial information that can be used by agency management and others to review and control agency financial transactions.

All transactions are input under the authority of the Accounting Division. The division processed thousands of documents, resulting in 5.6 million transactions during fiscal year 1981-82.

Input Controls

Data is entered into the system using three media: hard copy SBAS forms, magnetic tape, and Remote Job Entry (telecommunication).

Hard Copy Input

Hard copy input must be submitted to the Accounting Division. Agencies may segregate hard copy documents into batches. The Accounting Division batches unbatched input documents, and logs batch control totals. The Data Entry Section of the Computer Services Division key-enters and key-verifies batches of documents. No central review is performed to ensure hard copy input documents are properly authorized.

RJE and Magnetic Tape Input

During fiscal year 1981-82, five of the six university system units (all except Northern Montana College), and the Departments of Social and Rehabilitation Services, Highways, Commerce, and Fish, Wildlife, and Parks submitted SBAS transactions via Remote

Job Entry or magnetic tape. Magnetic tape and RJE transactions are processed through a reformat program to convert the transmitted record into a format acceptable by SBAS. The reformat program produces a report of control totals which is distributed to the Accounting Division and the transmitting agency. The Accounting Division uses this report in its batch reconciliation process.

Daily Batch Reconciliation

Following each daily processing run the Accounting Division reconciles control totals for all batches input to the control totals of documents processed and rejected by validity edits. Reconciliation controls are adequate to ensure all SBAS input data received by the Accounting Division are input for processing.

Validity Edits

Before transactions are allowed to enter the update cycle of processing, all transactions are edited by a validity edit routine. Documents containing invalid transactions are rejected and placed in an error suspense file. A rejected document report is printed identifying the errors. Validity edits minimize the number of invalid transactions processed.

Suspense File Corrections

Documents rejected and output to the suspense file are corrected using an on-line error correction program.

The rejected documents for most state agencies are corrected by the Accounting Division. The Accounting Division contacts agencies with rejected documents by telephone to obtain the correct entry. In certain instances the Accounting Division will correct

the suspense file for rejected agency documents without notifying the agency in advance of the change. Accounting Division notifies the agency the following day of the changes made via a "was/is" report. The report shows the original transaction ("was") and the corrected version ("is").

The six university system units and the Departments of Health, Commerce, and Fish, Wildlife, and Parks have on-line error correction capabilities for documents submitted by their agencies.

The content of the rejected document suspense file is re-input for each SBAS daily processing run. Data re-input from the suspense file is again processed through the SBAS validity edits. Corrected documents enter the processing cycle and documents not corrected or only partially corrected reject to the suspense file. The Accounting Division does not reconcile the rejected document suspense file to ensure rejected documents are input on the next run. A "was/is" report is printed and distributed to the Accounting Division and the agency submitting the document.

Processing Controls

Run-to-run Totals

Run-to-run totals used in the SBAS daily processing ensure that transactions input are processed and properly update subsidiary control ledgers and responsibility center records.

Update Edits

The SBAS Daily Processing Program contains update edits to prevent the creation of a warrant causing a negative cash or appropriation balance. Whenever an agency makes an expenditure causing a negative cash or appropriation balance, an edit prevents

11

the creation of warrant source records until the balance is again positive. The Accounting Division accounts for and controls the release of these suppressed warrants. These edits do not prevent the processing of transactions causing negative cash or appropriation balances.

Output Controls

Balancing Controls

The SBAS Month-End Program sorts SBAS control ledgers into various formats for the generation of SBAS monthly reports.

During month-end processing, the control ledgers for each accounting entity are balanced to the general ledger for that entity to ensure that the general ledger was properly updated.

Totals on responsibility center and reporting center reports are agreed to the totals of the responsibility center control ledgers used to create the reports. If the above totals are not in agreement, the error message * TOTALS DO NOT AGREE * is printed on the responsibility center or reporting center report.

Balancing controls are adequate to ensure the Accounting Division or the agency is notified when the general ledger, responsibility center reports, or reporting center reports disagree with subsidiary control ledgers. We did not test and therefore have no assurance that program reports agree to the general ledger or to control ledgers.

Report Distribution

SBAS hard copy and microfiche reports are distributed by the Accounting Division. Controls were adequate to ensure a proper and timely distribution of both hard copy and microfiche reports.

Year-end Cutoff

Near the end of each fiscal year the Department of Administration delivers cutoff instructions to every agency. It is the agency's responsibility to follow these instructions. The documents and tapes submitted during the cutoff period are required to be clearly marked as to which year they pertain. Agencies submitting RJE input are instructed not to transmit new fiscal year data until after certain dates. When the division receives transactions that are not clearly marked, division personnel call the agency to clarify the year to which the transactions pertain.

We found the Accounting Division's procedures ensured documents correctly marked by agencies were input for processing in the correct fiscal year.

Cash Elimination

Agencies were allowed to pay valid fiscal year 1981-82 obligations during the fiscal year-end adjustment period. Cash transactions following the June 30 cutoff would normally result in a misstatement of cash at year-end. To prevent misstatement, cash elimination receivable and payable accounts were established. Management Memo 2-82-2 contains a detailed description of the cash elimination process.

Agencies were allowed to record cash transactions during the adjustment period except on transfer warrant claims and no-warrant transfers.

SBAS Closing

The closing of SBAS nominal and budgetary accounts is performed automatically in the SBAS closing program. We examined

the closing process and found controls adequate to ensure that SBAS is properly closed.

Disaster Recovery

The CSD disaster recovery plan discussed on page 4 of this report includes the SBAS application. Offsite backup of files maintained for the SBAS application was adequate.

Miscellaneous

Non-Treasury Cash Accounts

Agency use of non-treasury cash accounts must be approved on a form DA-105 by Accounting Division. We examined non-treasury cash accounts for proper authorization and found all authorization forms tested had Accounting Division approval.

WARRANT WRITING SYSTEM

Background

The Warrant Writing System controls the creation and distri-
bution of most state warrants and the redemption of all state
warrants. The system accounts for state warrants issued, outstand-
ing, and redeemed.

Montana State University (MSU) and the University of Montana
(U of M) create and distribute payroll warrants for their agencies.
We did not review control over the creation and distribution of
warrants at MSU and U of M.

Treasury checks written by the Department of Administration,
Treasury Division, and the Department of Labor and Industry,
Employment Security Division, are not a part of the warrant writing
system and were excluded from our review.

The operation of the warrant writing system is controlled by
the State Auditor's Office and the Accounting and Treasury Divi-
sions of the Department of Administration. The State Auditor's
Office is primarily responsible for the system. The Accounting
Division initiates the warrant writing function and reconciles the
system to the Statewide Budgeting and Accounting System (SBAS).
The Treasury Division controls warrant redemption.

Input Controls

The Accounting Division initiates the writing of warrants via
a request to the Computer Services Division to create warrants
from specific warrant source files. Once the warrants are created,
they are sent to the State Auditor's Office for distribution, and a
copy of the warrant register, detailing all the warrants created, is
sent to the State Auditor's Office and the Accounting Division.

15

The Accounting Division reconciles the warrant register to SBAS daily, to ensure that warrants written reconcile to warrant transactions processed through SBAS. Additionally, the general warrant revolving account (accounting entity 07300), through which all state warrants are recorded on SBAS, is reconciled monthly by the Accounting Division.

Input controls were adequate to ensure that data received for processing was properly authorized and input into the Warrant Writing System.

Processing Controls

Warrant Writing

When warrants are written, a corresponding warrant record is placed on the outstanding warrants file. Warrants not created by the Warrant Writing System, yet controlled by the system for clearing purposes (see background section), are added to the outstanding warrants file through a warrant edit and load program. Before any warrant is written, or any warrant record is added to the outstanding file, logical editing of the warrant source information is performed. If errors are detected by the edits, the warrant source record is rejected on an error report. The Accounting Division corrects rejected warrant source records and reenters them in the system.

When the State Auditor's Office receives the warrants, office personnel agree the amount and payee of each all purpose warrant to a corresponding warrant transmittal prepared by the applicable agency. Central payroll warrants are sequence checked to ensure

all warrants are sequentially numbered and no warrants are missing. The total amount of multiple vendor warrants submitted via magnetic tape is agreed from the warrant transmittal to the warrant register.

Controls over the blank warrants and signature plates maintained in the State Auditor's Office are adequate. <u>We did not review these controls or the warrant writing process at MSU or U of M</u>.

The system utilizes a warrant control file to control the warrant numbers used in each warrant writing run. This file is updated each run. It provides the system with the necessary information to determine that the warrants being printed are properly sequenced.

Warrant Redemption

The Treasury Division receives warrants and a magnetic tape of warrant records that have cleared the bank on a daily basis. The physical warrants are first agreed by warrant number and amount to the bank tape. Discrepancies are researched and corrected. Next, the bank tape is processed against the outstanding warrants file by warrant series and number. Warrants from the bank that match the corresponding record on the outstanding warrants file are coded by the system as cashed.

Cashed warrants are removed from the outstanding warrants file at the end of the month after the Monthly Warrant Register is prepared. Errors identified by the above process are corrected and resubmitted by the Treasury Division.

We reviewed the processing controls that ensure warrant information is properly reflected in the Warrant Writing System.

17

This review included examination of the processing policies and procedures followed in the operation of the system. Processing controls were adequate to ensure that all transactions were processed as intended and that warrants are generated in the image of their supporting transfer warrant claim or payroll detail record.

Output Controls

The Warrant Writing System produces reports to control the processing of the system. These reports are used daily to balance the outstanding warrant source file and the cashed warrant source files.

Distribution of all-purpose and central payroll warrants is controlled by the State Auditor's Office. Warrants are either mailed directly to the recipient indicated on the warrant transmittal or picked up at the State Auditor's Office. In the latter case, agency personnel must be authorized to receive warrants and must sign for the warrants received. We did not examine controls over the distribution of payroll warrants at MSU or U of M.

Output controls are adequate to ensure that the State Auditor's Office releases warrants only to authorized personnel and that output reports accurately reflect the results of processing.

Disaster Recovery

The Warrant Writing System is included in the Computer Services Division disaster recovery plan discussed on page 4 of this report. Offsite backup of files is not adequate for the Warrant Writing System.